

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings includes changes to Figs. 1 and 4.

Attachment: Replacement sheets (2)

REMARKS

Claims 1-3 and 5-7 are pending. Claim 1 has been amended. The drawings have been amended. No new matter has been added.

The drawings were objected to because elements 19 and 14 appear to be pointing to the same layer in Fig. 1. The same problem exists with elements 79 and 74 of Fig. 4. Accordingly, Figs. 1 and 4 have been amended to properly show these layers as separate. Applicant requests that this objection be withdrawn.

Claims 1, 2, 5 and 6 were rejected under 35 USC 103(a) as being unpatentable over Khan, U.S. Patent No. 5,192,987 in view of Inoue, U.S. Patent No. 6,639,255 B2. This rejection is respectfully traversed.

Claim 1 has been amended to recite that the plurality of III-N layers includes an undoped GaN layer and that an n-type delta doped GaN layer is interposed between the undoped AlN layer and the undoped GaN layer. Both Khan and Inoue fail to teach or suggest these features.

The Si doped layer 703 shown in Fig. 7 of Inoue is composed of AlGaN as indicated in col. 10, lines 22, 50-51, and 54. Contrary to this, claim 1 recites an n-type delta doped GaN layer interposed between the undoped AlN layer and the undoped GaN layer. The Si doped layer 703 and the claimed n-type delta doped GaN layer of claim 1 are distinctly different. Specifically, the location of the Si doped layer 703 in the wide bandgap AlGaN is normal and necessary so that the Si doped layer 703 functions as an electron supply layer without causing excessive scattering of electrons. If layer 703 were to be composed of GaN and located in the same position (position indicated by a reference numeral "703" in Fig. 7 of Inoue), it would form part of the channel layer and would cause excessive scattering of electrons in the channel. Thus, not only does Inoue fail to teach the claimed n-type delta doped GaN layer interposed between the undoped AlN layer and the undoped GaN layer, but there would have been no motivation to use such a layer in place of the Si doped layer 703.

Accordingly, the features of claim 1 are not taught by Khan, Inoue or a combination thereof. The remaining claims are allowable at least due to their respective dependencies. Applicant requests that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552031600.

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Respectfully submitted,

By 
Deborah S. Gladstein
Registration No.: 43,636
MORRISON & FOERSTER LLP
1650 Tysons Blvd, Suite 300
McLean, Virginia 22102
(703) 760-7753

REPLACEMENT SHEETS